

ABSTRACT OF THE DISCLOSURE

A biodegradable and biocompatible polyurethane composition synthesized by reacting isocyanate groups of at least one multifunctional isocyanate compound with at least one bioactive agent having at least one reactive group -X which is a hydroxyl group (-OH) or an amine group (-NH₂). The polyurethane composition is biodegradable within a living organism to biocompatible degradation products including the bioactive agent. Preferably, the released bioactive agent affects at least one of biological activity or chemical activity in the host organism. A biodegradable polyurethane composition includes hard segments and soft segments. Each of the hard segments is preferably derived from a diurea diol or a diester diol and is preferably biodegradable into biomolecule degradation products or into biomolecule degradation products and a biocompatible diol. Another biodegradable polyurethane composition includes hard segments and soft segments. Each of the hard segments is derived from a diurethane diol and is biodegradable into biomolecule degradation products.